

Servo Motor EMMT-AS-40-S-LS-R2SB

Part number: 8171414

FESTO



 [General operating condition](#)

Data sheet

Feature	Value
Ambient temperature	-40 °C ... 40 °C
Note on ambient temperature	up to 80°C with derating -2%/°C
Max. installation height	4000 m
Information on max. installation height	with 1,000 m and longer only with derating of -1.0% per 100 m
Storage temperature	-40 °C ... 70 °C
Relative air humidity	0 - 90 %
Conforms to standard	IEC 60034
Thermal class according to EN 60034-1	F
Max. winding temperature	155 °C
Rating class according to EN 60034-1	S1
Temperature monitoring	Digital motor temperature transmission via EnDat® 2.2
Motor type as per EN 60034-7	IM B5 IM V1 IM V3
Mounting position	Any
Degree of protection	IP40
Note on degree of protection	IP40 for motor shaft without rotary shaft seal IP65 for motor shaft with rotary shaft seal IP67 for motor housing, incl. connection technology
Concentricity, coaxiality, axial runout according to DIN SPEC 42955	N
Balancing quality	G 2.5
Detent torque	<1.0% of peak torque
Bearing lifetime, under nominal conditions	20000 h
Interface code, motor out	40P
Electrical connection 1, connection type	Hybrid plug
Electrical connection 1, connection technology	M23x1
Electrical connection 1, number of pins/wires	15
Electrical connection for input 1, connection pattern	00995913
Contamination level	2
Note on materials	RoHS-compliant
Corrosion resistance class (CRC)	0 - No corrosion stress
LABS (PWIS) conformity	VDMA24364 zone III
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27
Certification	RCM compliance mark c UL us - Recognized (OL)

Feature	Value
CE marking (see declaration of conformity)	As per EU EMC directive As per EU low voltage directive As per EU RoHS directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions To UK instructions for electrical equipment
Certificate issuing authority	UL E342973
Nominal operating voltage DC	325 V
Type of winding switch	Star inside
Number of pole pairs	5
Stall torque	0.24 Nm
Nominal torque	0.21 Nm
Peak torque	0.83 Nm
Nominal rotary speed	7000 rpm
Max. rotational speed	15600 rpm
Max. mechanical speed	15000 rpm
Angular acceleration	$\leq 100000 \text{ rad/s}^2$
Motor nominal power	154 W
Continuous stall current	1.3 A
Motor nominal current	1.2 A
Peak current	5.4 A
Motor constants	0.175 Nm/A
Standstill torque constant	0.24 Nm/A
Voltage constant, phase-to-phase	14.6 mVmin
Phase-phase winding resistance	13.1 Ohm
Winding inductance phase-phase	13.9 mH
Winding longitudinal inductivity Ld (phase)	5.3 mH
Cross inductivity Lq (phase)	6.9 mH
Electric time constant	1.06 ms
Thermal time constant	4.6 min
Thermal resistance	1.58 K/W
Measuring flange	200 x 200 x 15 mm, steel
Total output inertia moment	0.045 kgcm ²
Product weight	600 g
Permissible axial shaft load	30 N
Permissible radial shaft load	150 N
Rotor position sensor	Absolute encoder, single-turn
Rotor position sensor for manufacturer designation	ECI 1119
Rotor position encoder for absolutely detectable revolutions	1
Rotor position sensor interface	EnDat® 22
Rotor position sensor measuring principle	Inductive
Rotor position encoder for DC operating voltage	5 V
Rotor position encoder for DC operating voltage range	3.6 V ... 14 V
Rotor position encoder for positional values per revolution	524288
Rotor position sensor resolution	19 bit
Rotor position encoder system accuracy angle measurement	-120 arcsec ... 120 arcsec
Brake holding torque	0.45 Nm
Brake DC operating voltage	24 V
Brake current consumption	0.34 A
Brake power consumption	8.2 W
Brake coil resistance	70.9 Ohm
Brake coil inductivity	146 mH
Brake separation time	$\leq 28 \text{ ms}$
Brake closing time	41 ms

Feature	Value
DC brake response delay	≤8 ms
Max. brake no-load speed	12000 rpm
Max. brake friction work	1500 J
Number of emergency stops per hour	1
Total brake friction work	1.5 kJ
Brake mass moment of inertia	0.0058 kgcm ²
Switching cycles, holding brake	10 million idle actuations (without friction work!)
MTTF, subcomponent	190 years, rotor position sensor